



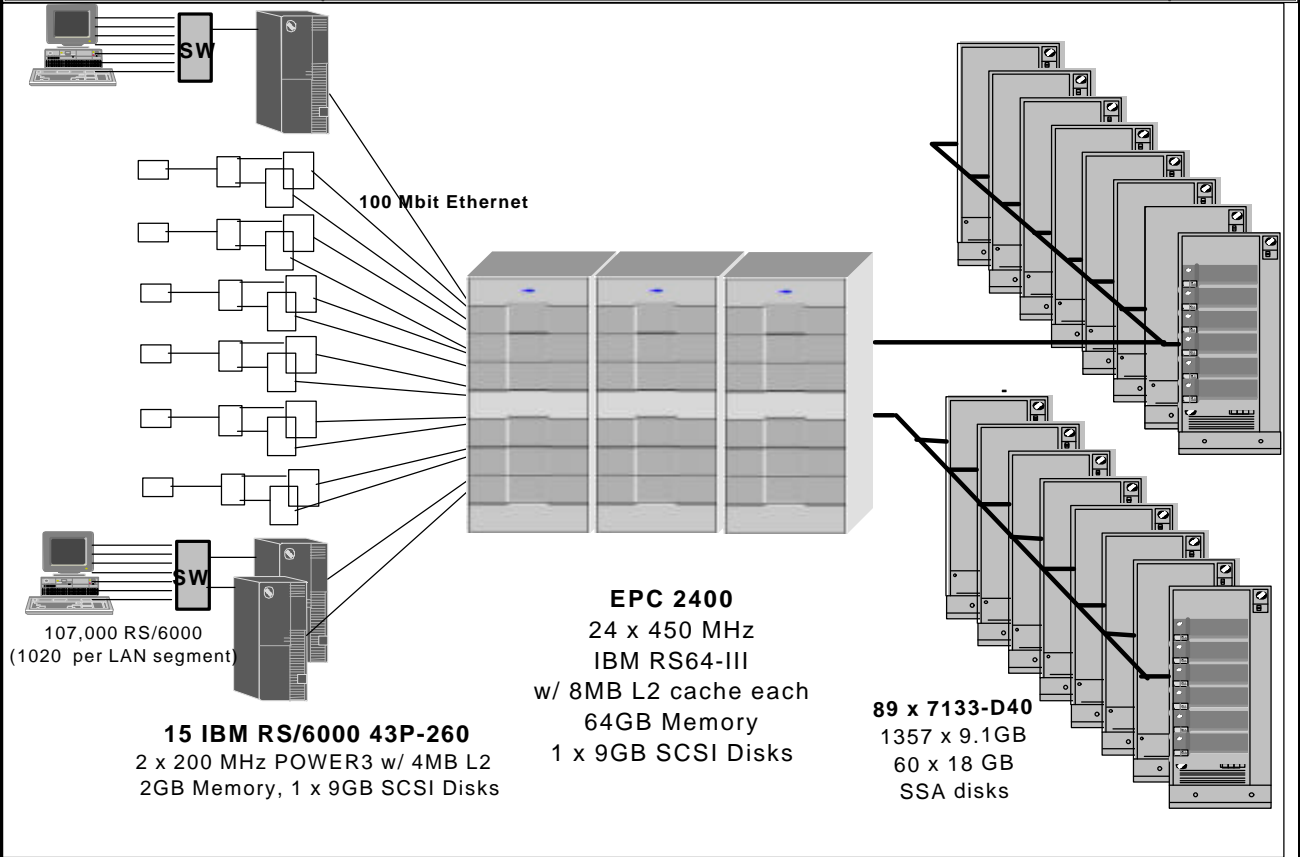
BULL Escala EPC 2400 c/s

TPC-C Rev. 3.4

ORACLE

Report Date:
Nov 5, 1999

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
\$7,462,215	135,815.7 tpmC	\$54.94/tpmC	March 1, 2000	
Processors	Database Manager	Operating System	Other Software	No. Users
24 x IBM RS64-III	Oracle Version 8.1.6	AIX 4.3.3	TXSeries 4.2 for AIX	107 000



System Components	Clients		Server	
	Quantity	Description	Quantity	Description
Processor	15	2 x 200 MHz POWER3 w/ 4MB L2 cache each	24	450 MHz IBM RS64-III w/ 8MB L2 cache each
Memory		2 GB		64 GB
Disk Controllers	15	SCSI-2 Adapters	2 18	SCSI-2 Adapters SSA Adapters
Disk Drives	15	9.1 GB SCSI	1,357 60 1	9.1 GB SSA Disks 18 GB Disk 9.1 GB SCSI Disk
Total Storage		9.1 GB each client		12,358.4 GB
Terminals	15	System Console	1	System Console
Term. Connect	13,44	8-Port Ethernet Hubs		



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Description	Part Number	Source	Unit Price	Quantity	Extended Price	5-year Maint. Price
Server Hardware						
ESCALA EPC2400 SYSTEM	CPXG227-0000	1	46 944	1	46 944	48 000
Kit Ultra2 SCSI Basic Implementation	CKTG126-0000	1	1 465	1	1 465	
32X (Max) SCSI-2 Internal CD ROM drive	CDRG016-0000	1	375	1	375	
9,1 GB Ultra-SCSI 16-bit Hot Swap Disk Drive (1")	MSUG104-0000	1	1 400	1	1 400	
ETHERNET 10/100Mb/s PCI ADAPTER	DCCG137-0000	1	275	16	4 400	
Remote I/O Cable - 3m	CBLG202-1000	1	165	2	330	
Remote I/O Cable - 6m	CBLG199-1800	1	745	2	1 490	
16384 MB Memory (4 boards of 4096MB)	CMMG151-0000	1	147 456	4	589 824	
CPU Board with 6 RS64-3@450MHz - 8MB L2 cache	CPUG041-0000	1	200 000	4	800 000	326 400
I/O Drawer to Drawer Power Control Cable (SPCN) - 2 m	CBLG184-1000	1	60	2	120	
I/O Rack to Rack Power Control Cable (SPCN) - 15 m	CBLG185-2000	1	75	1	75	
Kit Power Supply Extension	PSKG006-0000	1	3270	1	3 270	
Additional I/O drawer, 10EIA	DRWG012-0000	1	24500	3	73 500	
Additional Expansion Rack	RCKG003-0000	1	3 500	1	3 500	
Async/Terminal cable	2934	2	45	1	45	
Advanced Serial Raid adapter	6225	2	3 000	18	54 000	
32MB Fast Write Cache option	6235	2	575	3	1 725	
Prestige 6000VA UPS	9910-EP8	2	5 505	1	5 505	
Prestige ext UPS	9910-U33	2	3 822	2	7 644	
System Rack Model S00	7014-S00	2	3 500	15	52 500	25 200
Additional Power Distribution Unit	6171	2	1 000	15	15 000	
SSA disk subsystem	7133-D40	2	13 000	89	1 157 000	854 400
50/60 hz power supply	8022	2	2 000	89	178 000	
9.1GB disk drive modules	8209	2	2 760	1357	3 745 320	
18GB disk drive modules	8209	2	4 500	60	270 000	
SSA Cables	8802	2	65	178	11 570	
Subtotal					7 025 002	1 254 000
Server Software						
AIX(TM) V4.3 SERVER LIBRARY	EXSG086-SRCE	1	575	1	575	0
AIX 4.3 1-2 User License Class F, G	EXSG124-RK0A	1	950	1	950	0
C FOR AIX V4.4 (64 bits & SMP) - 1 CONCUR ACC.	CLGG020-RAAA	1	100	1	100	0
C FOR AIX V4.4 (64 bits & SMP) - MEDIA & DOC	CLGG020-SRAE	1	50	1	50	0
PERFORMANCE AIDE FOR AIX 4.3 LICENCE - QTY 1	UTSG135-RA0A	1	50	1	50	0
Oracle Version 8.1.6 64 bits		3	783990	1	783 990	783 990
Subtotal					785 715	783 990
Client Hardware						
RS/6000 Model 43P-260	7043-260	2	6002	15	90 030	110 160
9.1 GB SCSI Hard Disk	2908	2	1400	15	21 000	0
Async Terminal/Printer Cable	2934	2	45	15	675	0
10/100 Mbps Ethernet Adapter, PCI	2968	2	275	30	8 250	0
Memory Expansion Feature	4098	2	1038	15	15 570	0
512MB SDRAM DIMM Memory	4119	2	6400	60	384 000	0
200 MHz Power3 Processor, 4MB L2	4342	2	8000	30	240 000	0
IBM ASCII Terminal, Keyboard, Cable	3153-BG3	2	577	16	9 232	0
Subtotal					768 757	110 160
Client Software						
AIX 4.2.1 Unlimited Users	5756-C34	2	9800	15	147 000	0
IBM TXSeries 4.2 for AIX	5697-D17	2	3353	15	50 289	17 625
Subtotal					197 289	17 625
User Connectivity						
16port Ethernet Switch + 2 spares	Nbase	5	1 560	10	15 600	3 120
Ethernet HUB (8 port) (+10% spares)	HB1009DX/P	4	25	14784	369 600	0
Subtotal					385 200	3 120
Discounts					-3 467 129	-401 514
TOTAL					5 694 834	1 767 381
Notes:						
Pricing: 1-Bull 2-IBM 3-Oracle 4-NetCruiser technologies 5-NCOM			Five-Year Cost of Ownership: \$7 462 215			
			tpmC Rating: 135815,70			
			\$ / tpmC: 54,94			

Audited by Francois Raab of Information Sizing

Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated discounts are not permitted. Special prices based on assumptions about past or future purchases are not permitted. All discounts reflects standard pricing policies for the listed components. For complete details, see the pricing sections of the TPC benchmark specifications. If you find that the stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.

Numerical Quantities Summary for the Bull Escala EPC 2400

MQTH, computed Maximum Qualified Throughput: 135,815.70 tpmC

Repeatability Run: 135,537.07 tpmC 0.2% difference

<u>Response Times (in seconds)</u>	<u>90th %</u>	<u>Average</u>	<u>Maximum</u>
New Order	0.54	0.26	7.55
Payment	0.48	0.22	7.29
Order-Status	0.55	0.26	5.11
Delivery (interactive portion)	0.19	0.11	1.61
Delivery (deferred portion)	0.22	0.13	3.52
Stock-Level	0.85	0.52	7.55
Menu	0.01	0.01	3.59

Transaction Mix, in percent of total transactions

	<u>Percent</u>
New Order	44.96%
Payment	43.00%
Order-Status	4.01%
Delivery	4.00%
Stock-Level	4.01%

<u>Keying/Think Times (in seconds)</u>	<u>Min.</u>	<u>Average</u>	<u>Max.</u>
New Order	18.00/0.01	18.01/12.01	18.18/120.11
Payment	3.00/0.01	3.01/12.00	3.19/120.11
Order-Status	2.00/0.01	2.01/10.01	2.16/100.10
Delivery	2.00/0.01	2.01/5.02	2.17/50.10
Stock-Level	2.00/0.01	2.01/5.00	2.17/50.10

Test Duration

Ramp-up Time	52 min 14 sec
Measurement interval	30 minutes
Transactions during measurement interval (all types)	9,061,152
Ramp-down time	15 minutes

Checkpointing

Number of checkpoints	1
Checkpoint interval	29 min 51 sec
